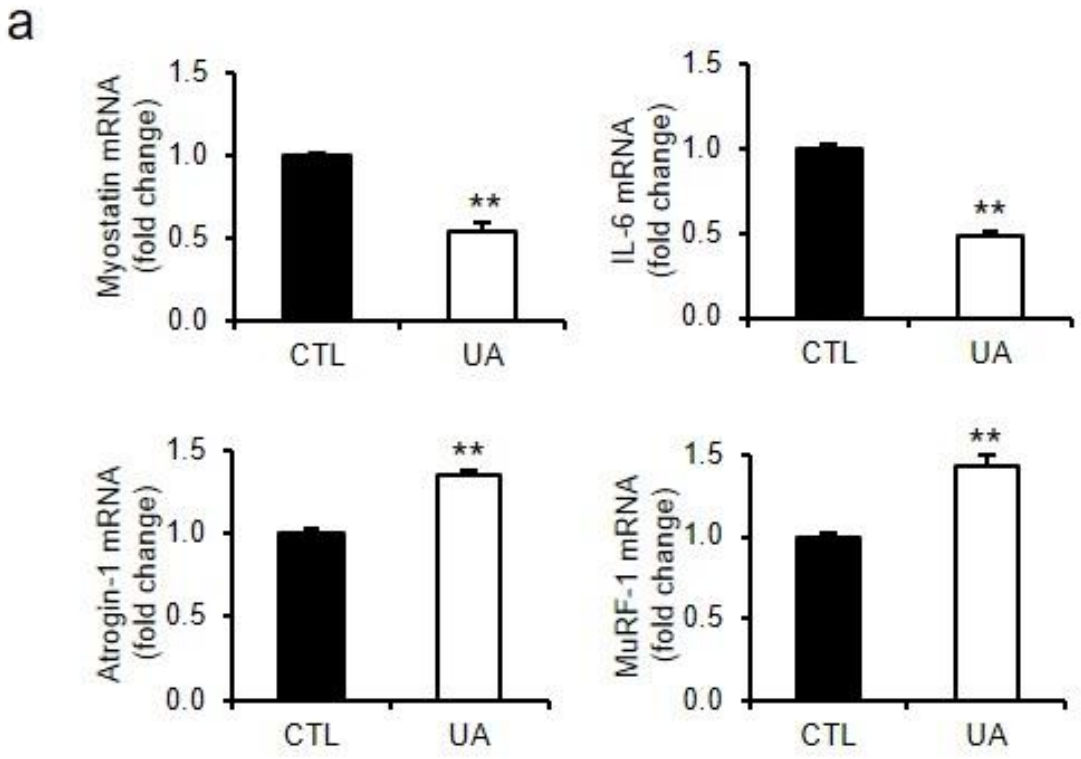
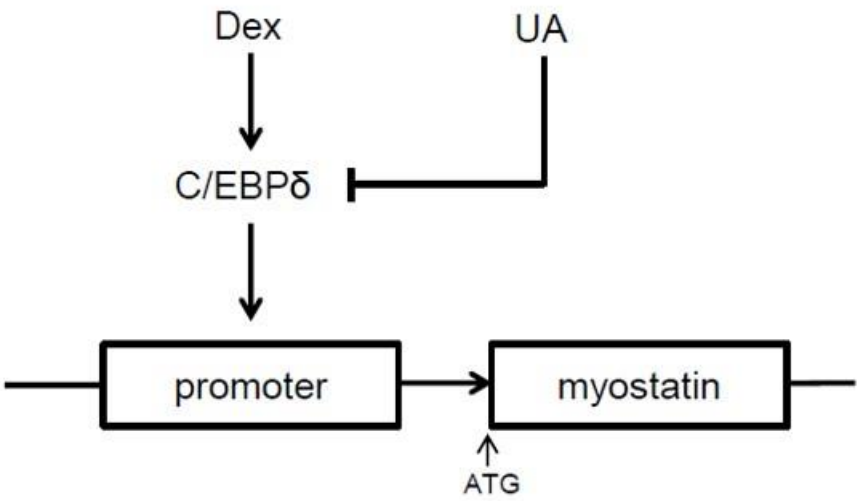
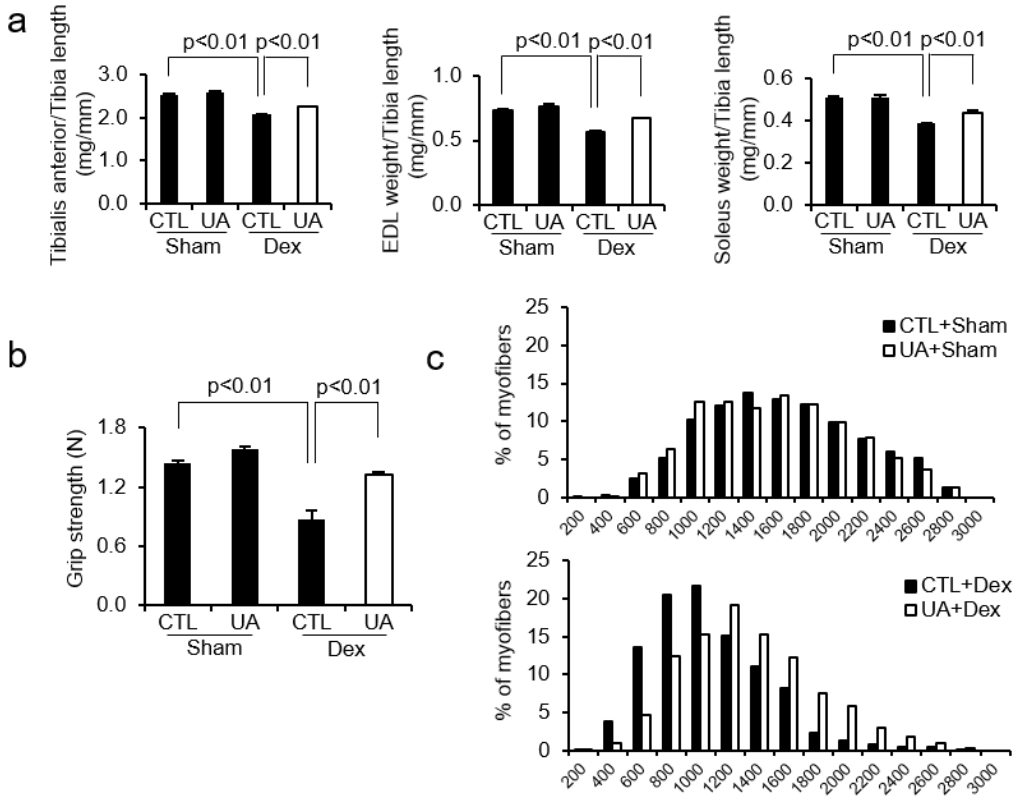


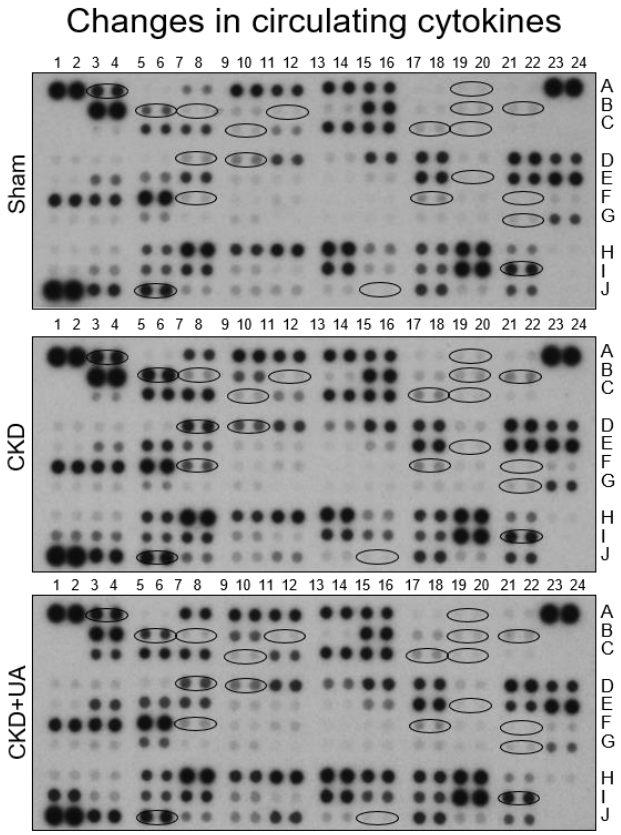
Supplemental Figure 1: Ursolic acid suppresses myostatin but stimulates Atrogin-1 and MuRF-1 in C2C12 myotubes cultured in DMEM containing 2% horse serum. The changes of myostatin, IL-6, Atrogin-1 and MuRF-1 indicated in Myogenesis & Myopathy RT-PCR Array were confirmed using qRT-PCR. Ursolic acid (UA) suppressed myostatin and IL-6, while increased Atrogin-1 and MuRF-1 (mean±SEM; **P<0.01 vs. CTL group; n=3).



Supplemental Figure 2: Ursolic acid blocks the promoter of myostatin via suppressing C/EBP-δ. Schematic diagram shows that ursolic acid (UA) blocks dexamethasone-induced myostatin expression via abolishing C/EBP-δ binding to the promoter of myostatin.



Supplemental Figure 3: **Ursolic acid ameliorates Dex-induced muscle atrophy in mice. (a)** Weights of TA muscle, EDL muscle and Soleus were normalized by tibia length (mean±SEM; n=5). (b) Grip strength measured in Sham and CKD mice with/without ursolic acid (mean±SEM; n=5). (c) The distribution of the myofiber cross sectional area (CSA, μm^2) (n=5, ~300 myofibers in each mouse were measured).



Coordinate	Analyte/Control	Entrez Gene ID	Alternate Nomenclature	Coordinate	Analyte/Control	Entrez Gene ID	Alternate Nomenclature
A3, A4	Adiponectin/Acrp30	11450	AdipoQ	D7, D8	CXCL13/BLC/BCA-1	55985	----------
A19, A20	CCL3/CCL4/MIP-1α/β	20302/20303	----------	D9, D10	CXCL16	66102	SRPSOX
B5, B6	CCL11/Eotaxin	20292	----------	E19, E20	IFN-γ	15978	IFNG
B7, B8	CCL12/MCP-5	20293	----------	F7, F8	IL-1α/IL-1F1	16175	----------
B11, B12	CCL19/MIP-3β	24047	ELC	F17, F18	IL-4	16189	B cell-stimulatory factor-1
B19,B20	CD14	12475	----------	F21, F22	IL-6	16193	----------
B21, B22	CD40/TNFRSF5	21939	----------	G21, G22	IL-33	77125	NF HEV, DVS 27
C9, C10	Coagulation Factor Ⅲ/ Tissue Factor	14066	TF, CD142, Thromboplastin	I21, I22	Resistin	57264	ADSF, FIZZ3
C17, C18	CX3CL1/Fractalkine	20312	FKN, Neurotactin	J5, J6	P-Selectin/CD62P	20344	GMP-140, LECAM3, Selep
C19, C20	CXCL1/KC	14825	CINC-1; GRO alpha; KC; MGSA-alpha	J15, J16	TNF-α	21926	TNFSF1A

Supplemental Figure 4: Serum inflammatory cytokine array analysis of sham-operated (Sham) mice and CKD mice treated with/without ursolic acid (UA). The changes of interested cytokines (circled) were showed in Figure 8b. The low panel listed the coordinate position, protein name and gene ID of selected cytokines.

Supplemental table 1: Blood urea nitrogen (BUN) and serum creatinine (Cre) levels in sham-operated mice (Sham) and CKD mice following subtotal nephrectomy.

Serum BUN and creatinine

	BUN(mg/dl)	Cre(mg/dl)
Sham	8.5 ± 0.4	6.2 ± 0.5
CKD	40.4 ± 1.0**	38.7 ± 0.9**

(mean ± SEM; **P<0.01 vs. Sham group; n=10)

Supplemental table 2: a list of qRT-PCR primers used in this study

MUSA1:
Forward: 5'-TCGTGGAATGGTAATCTTGC-3'
Reverse: 5'-CCTCCCGTTTCTCTATCACG-3'
Myostatin:
Forward: 5'-CTCCAGAATAGAAGCCATA-3'
Reverse: 5'-GCAGAAGTTGTCTTATAG-3'
Interleukin-6
Forward: 5'-CCGGAGAGGAGACTTCACAG-3'
Reverse: 5'-TCTGCAAGTGCATCATCGTT-3'
Atrogin-1
Forward: 5'-GAGGCAGATTCGCAAGCGTTTGAT-3'
Reverse: 5'-TCCAGGAGAGAATGTGGCAGTGTT-3'
MuRF-1
Forward: 5'-AGTGTCCATGTCTGGAGGTCGTTT-3'
Reverse: 5'-ACTGGAGCACTCCTGCTTGTAGAT-3'
GAPDH
Forward: 5'-ACCACCATGGAGAAGGCCGG-3'
Reverse: 5'-CTCAGTGTAGCCCAAGATGC-3'